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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,545	09/23/2003	Takeshi Nakamura	14225-025001 / F1030482US	2108

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EXAMINER	
CARPIO, IVAN HERNAN	

ART UNIT	PAPER NUMBER
2841	

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,545	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Ivan H. Carpio	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7 and 9-13* is/are pending in the application.

4a) Of the above claim(s) *9-12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-7* is/are rejected.

7)☒ Claim(s) *13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

The applicant's argument that the conductive pattern is not in a single layer is moot in view of the new grounds of rejection. The applicant's argues that Huang does not teach or suggest a through hole that penetrates an insulating resin in a thickness direction, examiner respectfully disagrees. As can be seen in figure 3, the through hole is going in the direction of the thickness of the resin, a thickness direction need not be perpendicular to the surface of the resin.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,3-5 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (US 6359341) in view of Okuaki (US 4723156).

With respect to claim 1 Huang teaches, a circuit device (Fig. 3, element 3') comprising: a conductive pattern (Fig. 3, element 32 Note: this includes the entire conductive pattern) on which a circuit element (Fig. 3, the chip mounted in the center) is mounted; an insulating resin (Fig. 3, element 35) with which the circuit element and

the conductive pattern are covered; a shielding layer (Fig. 3, element 7 and (column 6, lines 63-67) provided on the main surface of the insulating resin, a through hole penetrating the insulating resin in a thickness direction, wherein the through hole extends from the main surface of the insulating resin to a top surface of the conductive pattern and a connecting means (Fig. 3, elements 71) formed inside the through hole and electrically connected to the conductive pattern and the shielding layer. Huang does not teach that the conductive pattern is in a single layer and the backface of the conductive pattern is exposed. Okuaki teaches a circuit device with a conductive pattern that is in a single layer and the backface is exposed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the conductive pattern, taught by Huang, be on a single layer and have the back face exposed, as taught by Okuaki, because it would reduce the dimensions of the circuit device as well as allow direct connection to the conductive patterns.

With respect to claim 3 and with all the limitations of claim 1, Huang teaches the conductive pattern electrically connected to the shielding layer is a conductive pattern serving as a ground potential (column 6, lines 50-56).

With respect to claim 4 and with all the limitations of claim 1, Huang teaches shielding layer is made from a metal (column 6, line 52-53).

With respect to claim 5 and with all the limitations of claim 1, Huang teaches that the shielding layer and the connecting means are made of the same material (Fig. 3).

With respect to claim 7, Huang teaches that the upper surface of the insulating resin is a rugged surface (fig. 3, note that uneven surface where element 7 begins).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (US 6359341) and Okuaki (US 4723156) in view of Tachibana (US Patent 6270607).

Huang modified as taught by Okuakis teaches all of the limitations of claim 6 except that the shielding layer and the connecting means are made of a plated film. Tachibana teaches a circuit device with a shielding device (Fig. 1(b), element 6a) and connecting means (fig. 1(b), element 4a) made of a plated film (column 4, lines 23-24). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the shielding and connecting means, taught by Huang, by plated film, as taught by Tachibana, because doing so eliminates the need to have an additional step (Tachibana column 4, lines 23-28) of pasting or attaching the shield and connecting means to the resin encapsulate.

Allowable Subject Matter

Claim 13 contains allowable subject matter.

Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ivan H. Carpio whose telephone number is 571-272-8396. The examiner can normally be reached on M-R 6:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IC

Dean A. Reichard 10/30/06
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